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PROBLEM OF PRIORITIES IN DEVELOPMENT OF TECHNICAL AND VOCATIONAL EDUCATION ESPECIALLY IN RAPIDLY DEVELOPING COUNTRIES*

by

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A developing Country may be defined as a country where the following conditions apply:

1. Where man-power resources have not acquired the skill which enables their earning power to permit a reasonable standard of living.
2. Where the economy is based primarily on the export of raw material or semi-finished articles.
3. Where the natural resources — apart from man power—are capable of being developed into industries producing commodities or capital goods which would find a place in the international economic exchanges.
4. Where the educational and training authorities are aware of the possibilities and desirous of achieving a higher standard of living for its population.

A *rapidly* developing Country is distinguished by an accelerated development of natural resources ahead of the development in man power resources.

A rapidly developing Country satisfying the above definition may ultimately suffer from a sense of frustration because of the shortage of technicians and skilled workers.

The development of Technical and Vocational Education in any Country can be achieved more thoroughly if the fine basic elements of Technical Education are examined and treated under the light of individual national requirements. It is reasonable to state that the requirements will not vary greatly, qualitatively from one Country to another at the different levels of training and Education; but the needs quantitatively or better still the ratio of graduates from the different levels will vary. For example, if the United States and the United Arab Republic are developing their Technical and Vocational Education, it is fair to assume that the STANDARD of Technicians, Charge hands, skilled workers, etc. needed to operate the average industrial plants is the same if the quality of the final product is to be the same.

However, taking into consideration the previous education, the number of industrial plants, the degree of industrialization of both Countries, it is obvious that the ratio of technicians, to skilled workers to semi-skilled workers must vary between the U. S. and the U. A. R. Thus the individual national requirements dictate the methods to be adopted in developing Technical Education.

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* *This article was prepared and delivered by Dr. Ali M. Shoeb at the International Meeting of Experts in Vocational and Technical Education in Brussels, Belgium, in October, 1959. Dr. Shoeb is Undersecretary of State, Ministry of Education, United Arab Republic. Countries represented at the meeting were Belgium, Colombia, Federal Republic of Germany, France, India, Japan, Senegal, United Arab Republic, United Kingdom, United States, and U.S.S.R. International Organizations represented were UNESCO, ILO, and the International Bureau of Education.*

In his paper, Dr. Shoeb departs from the usual terminology in reference to "underdeveloped countries." Rather, he chooses the term "rapidly developing countries" and he presents a summary analysis so precise and so astute that it will repay study by all who share interest in vocational and technical education.

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The basic elements of a system of Technical Education are:

The Student
The Teacher
The Curricula
The Equipment
The School

and in determining the problem of Priorities in the Development of Technical education each element should be examined separately but with an eye on its interdependence on the others.

The Student

The Student is the raw material of Technical Education and like any raw material it varies with the source, but also although coming from different sources it can be transformed to the same final product.

The factors which affect the "Workability" of this raw material are complicated by one which does not exist in any other case namely The Human Factor. In addition to this unique factor there are also others of great effect such as the Previous Education, the Age of the student, the Social Status after leaving school, and whether the student is a male or female.

The benefits that can be communicated in this field from one Country to another are limited to the Results of Experience. An expert can merely say that "from Experience" it is possible to achieve better results from a given Technical Education system if the students are accepted at a certain age, with a certain previous education; the greater proportion should be male or female and the number of students in a given class not to exceed a certain limit.

The Teacher

Here is the true backbone of Technical Education whose responsibility is often underestimated. Not only must the teacher in a Technical Education system be proficient in his specialized technical subject, but he must be also a teacher in the pedagogical sense. In a rapidly developing Country this requirement is easily overlooked in the great rush of recruiting instructors from the local industry, instructors who may be second to none in using and demonstrating a machine tool but who may fail miserably in their human relations with the students.

A rapidly developing Country may have other very serious difficulties such as the absence of a source of supply for teachers of Technical Education, and the in-service training of the available teachers. Such handicaps will affect the intended progress and without doubt will either slow it down or lower its quality.

When the suitable trained teacher is available, his impact on the students is effective only if he has his aids—books, charts, models, samples, and not least of all a good blackboard.

The guiding beam of the Teacher is the curricula which when faithfully and intelligently followed will lead him to the achievement of the objectives of Technical Education, namely dexterous hands that can obey a trained mind. The drawing up of a comprehensive and suitable curricula should be done by experts after studying the local conditions of a rapidly developing Country, as well as the previous education of the students. It is not usually an easy matter as it involves a thorough study and considerable work of translation. However, without curricula, there is no co-ordination between the different subjects whether they are inter-related or independent; even a good teacher will be at a loss if he is left entirely to his own initiative.

Equipment and School Buildings

The initial capital expenditure on School buildings and equipment as envisaged by the teaching authorities in a rapidly developing Country is often the real reason for the delay in progress in the fields of Technical Education. The budget distribution is often distorted by concentrating on the Production Projects rather than a Public Service like Technical Education. Thus an expert opinion on the most

suitable designs of School buildings will be of material help.

There is great misuse also of Capital in buying equipment which is often neither suitable for the age of the student nor the curricula and again the specification of suitable equipment for the different trades would greatly improve the efficiency in using available funds.

Summary

A. *Priorities in Development*

1. Secondary school level for students age 15-19 years
2. Technicians level — in courses of 4 years from 19-23 open to graduates of General Education as well as Technical Education.
3. Intermediate level for students age 12-15

B. *The Priorities of Aid*

1. For the Secondary School level
   a. Teacher Training
   b. Provision of Text books
   c. Drawing up of Suitable Curricula
2. For the Technicians level
   a. Study of requirements
   b. Expert help in drawing up curricula, Specification of buildings and Equipment
   c. Supply of Instructors, Technicians and Professors

CANBY FFA SECOND LARGEST IN THE NATION

by

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The Canby Chapter of the FFA was recently informed by W. T. Spanton, National FFA Adviser, that its membership of 172 is second only to the 174-member roll of the FFA chapter of Bakersfield, California. This came as a surprise to the people of the Canby School District because the agriculture department and FFA had been known locally for quality of instruction and influence with little thought being given to comparative size.

The announcement mentioned only quantity, of course, and it led to some good natured kidding from friendly neighbors which included suggestions that Canby High School might be listing FFA membership as an entrance requirement of all boys and that a promise of continued membership might be a condition of graduation. The truth is, however, that there are no rules or "gimmicks" which can account for Canby's enrollment in its agriculture classes or its membership in FFA. Slightly over 90% of the farm boys in grades nine through twelve take agriculture and more than half of the remaining 10% have tried and been unable to include agriculture in their program because their educational objectives have required a full five-subject load of college preparation courses.

The 172 members of the Canby FFA consist of 136 high school boys and 36 graduates who were enrolled in agriculture courses while in high school. Although FFA membership is not required of boys who take agriculture, this year, as in the past, all are members. The membership drives are the responsibility of the officers and members and the advisers encourage the boys to belong.

FFA has a brief history in Canby since vocational agriculture was not included in the curriculum until 1953. Dewain Englund, who is presently the president-elect of the Minnesota Vocational Agriculture Instructors Association, was the first teacher and remains as one of its two teachers. The other teacher, Luther Severtson, was added in 1958 when enrollment increases dictated a two-teacher department. Enrollment has continued to increase to the present 136 students making necessary serious consideration to the question of adding a third teacher.

The agriculture program in Canby probably has a few features that are unique. Its outstanding feature is, however, a constant alert effort on the part of the teachers for improvement of the program. Each boy taking agriculture is provided with an outline of the year's course of study in early September. The course of study is under continuous revision and each year a newly revised course of study is used.

A written outline is of considerable importance in Canby's arrangement since the two teachers use a variation of "team" teach-

ing. A schedule is set up between the two teachers dividing the teaching duties for each class. An example, used this year, found Englund teaching the Ag IV boys a unit in farm management analysis and farm credit while Severtson was teaching the Ag III class carpentry and hot metals. Upon completion a scheduled change found Englund teaching the Ag III class farm accounting and Severtson teaching the Ag IV boys cooperatives, insurance, and taxes. The advantage of this "team scheme" are: (1) The teachers can, to a greater extent, specialize in teaching about the areas of agriculture in which they have the strongest background and interest, and (2) Each teacher gets greater opportunity to know, observe, guide, and grow with every boy taking agriculture from the time he enters grade nine. Needless to say, this arrangement requires considerable rapport between teachers.

According to Englund the large size of the FFA membership "is a result of the farm boys taking a strong interest in the vocational agriculture program." This is a properly humble statement but interest must be created. It seems reasonable to assume that the agriculture program is the most important factor in the success of an FFA organization. It is not the only factor, however, and the FFA chapter that depends entirely on the agriculture program for its stimulation is probably a mediocre chapter.

Just as in agriculture classes the Canby FFA produces a written program of work which is revised each year. The parents of the boys receive a copy of the program at "parents-night" meetings which are held in October. Parents-night meetings are held for parents and boys according to the grade level of the boys. This division is made to keep the groups small and informal. The objectives, procedures, and programs are discussed with the parents at these meetings. Parents become acquainted also with attendance-taking methods used for the monthly FFA meetings. Cards are sent by the chapter secretary to parents of absentees of any evening meeting so that no member will be tempted to use FFA meetings to get the family car for a big night out.

Meetings are thoroughly planned so that the business meeting does not exceed 30 minutes. Each chairman of a program-of-work committee must report his committee's progress at each meeting. The parliamentary procedure used at these meetings is a pleasure to observe. Attendance of high school boys at last year's meetings was approximately 84%, a rather remarkable majority when one considers that all meetings are held in the evening.

The number of boys attending the state convention is confined to officers and members of participating teams. The national convention is attended by five boys each year. The boys who attend are selected by FFA members on the basis of their work in the chapter. The majority of the five are from the sophomore and junior classes.

Perhaps the key to any success that the Canby Chapter has achieved may be found in their careful selection of officers. A nominating committee makes their selection on the basis of work in FFA, leadership, citizenship, and several other criteria after which the senior class members screen the selection of the nominating committee. The seniors cannot be officers in the following year's organization so their judgment is quite objective. Of the seven FFA presidents, four have been student council presidents and three have been senior class presidents. Sherwood Knutson, 58-59 president, is currently the state FFA president, and Larry Reynolds, 57-58 president, occupied a state FFA office in 59-60. The Canby Chapter has had top student leaders as well as advisers.

People working in the education field may question the high percentage of farm boys that are taking agriculture and the number in FFA in Canby in view of nation-wide figures proving that less than half will remain on the farm. The influence of the programs far outweighs this possible shortcoming in Canby. The loyalty and purpose of the FFA boys is not confined to their FFA chapter. It is seen daily throughout the school in classwork as well as in activities. The holding power of the high school has improved considerably during the past several years and, although no scientific study of reasons has been made, there is little question but that the agriculture program and FFA are among the most important.

Canby is more than a little pleased with the results of the decision to add agriculture to the curriculum.